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CRUISE REPORT

TUG WHITEFOOT

LULU/ALVIN 109

June 30-July 1, 1981

Brad Butman
U.S. Geological Survey
Woods Hole, MA 02543

Vessels: Tug WHITEFOOT, LULU-ALVIN

Area of Operation: Georges Bank, Lydonia Canyon

Dates of Operation: June 30-July 1, 1981

Objectives:

The WHITEFOOT/LULU-ALVIN joint cruise was to recover a subsurface mooring in Lydonia Canyon (Figures 1-3). The release had failed to operate in April 1981 on OCEANUS 95 when we planned to recover the mooring. We dragged for the mooring, severed the wire below the second current meter, and recovered the upper portion of the mooring. We were unable to recover the deep instrument package, although we dragged for approximately two days.

The near-bottom instrument was a key instrument in the Lydonia Canyon moored array. ALVIN was planning a certification dive near Lydonia Canyon and graciously agreed to try to release the mooring on this dive. A hydraulic chain cutter was mounted on the sample basket of ALVIN; the hand pump was operated by the arm. Because LULU could not easily retrieve the heavy mooring once it surfaced, and because LULU-ALVIN were on a tight time schedule, WHITEFOOT was chartered to pickup the mooring after ALVIN cut it loose.

Personnel: WHITEFOOT: Roy Campbell, Master
Bill Strahle
Frank Musialowski

LULU: Brad Butman

Narrative:

June 30	0900	ALVIN-LULU departs Woods Hole.
	1100	WHITEFOOT departs Woods Hole.
July 1	0900	On station, Lydonia Canyon Launch ALVIN, Dive 1105. Pilots: Ralph Hollis and George Ellis.
	1500	ALVIN locates mooring and cuts chain.
	1700	Pickup mooring on WHITEFOOT. Transfer Butman to WHITEFOOT.
July 2	1830	Arrive Woods Hole.

Highlights:

The deep instrument package was recovered! ALVIN had little trouble locating the package with guidance from LULU. We could still transpond to the release on the mooring, and fortunately all floatation was intact. A backup recovery scheme using a rope canister dropped from WHITEFOOT was thus not needed. The chain was cut relatively easily with the hydraulic cutter. One VACM was lost on mooring 211. Apparently, we cut the mooring in two places while dragging on OCEANUS 95, and the intermediate floatation was insufficient to bring the VACM (V111P, Figure 3) to the surface. We were extremely fortunate to be able to use ALVIN to retrieve the mooring. It was a textbook, but remarkable recovery due to the skill of the ALVIN crew. The mooring probably would not have been recovered otherwise. The cruise was delayed for about one month while the cradle for ALVIN on LULU was repaired.

Tabulated Data:

Days at sea: 3

Moorings Recovered: 1

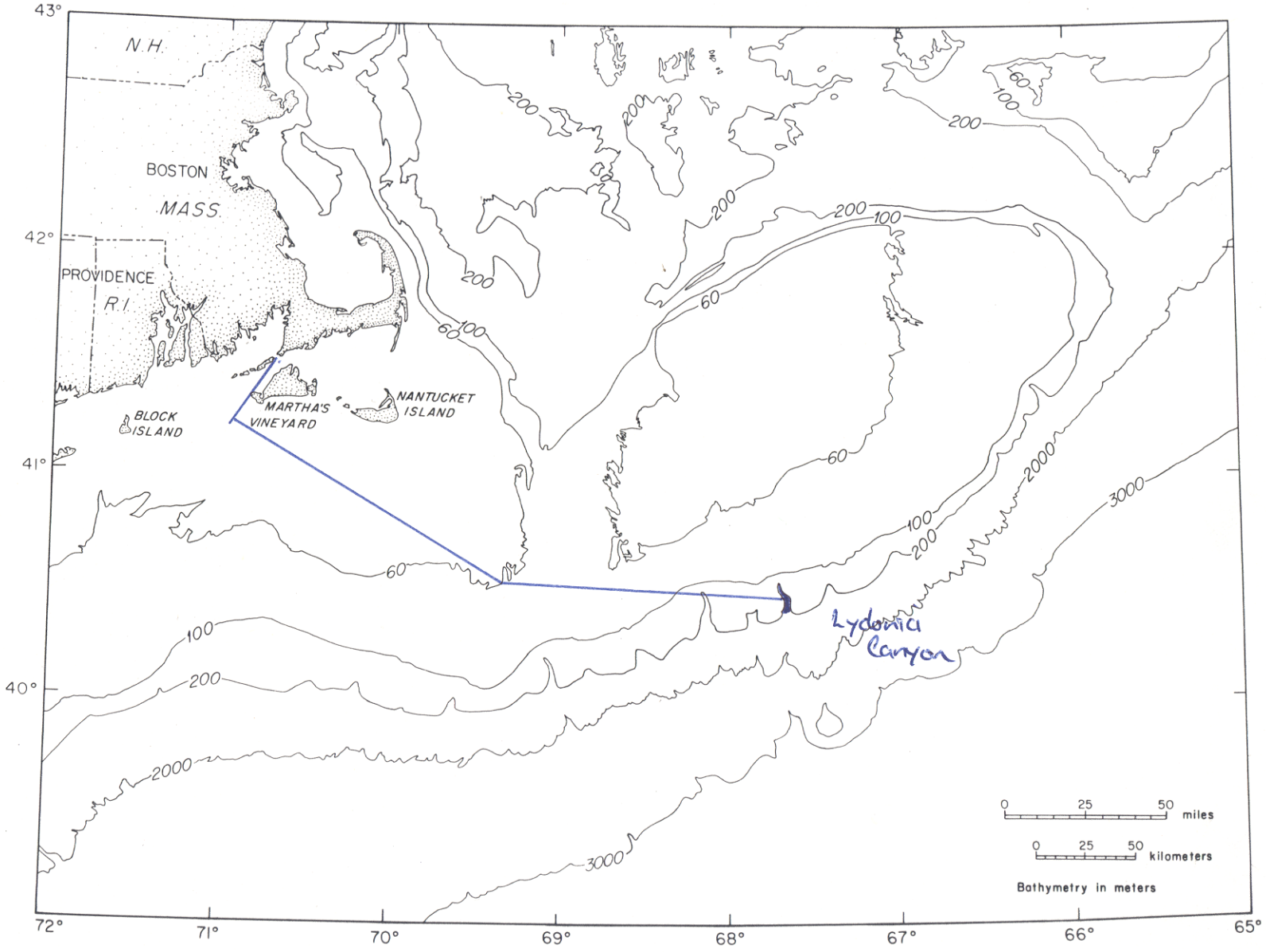

Figure 1. Location of Lydonia Canyon.

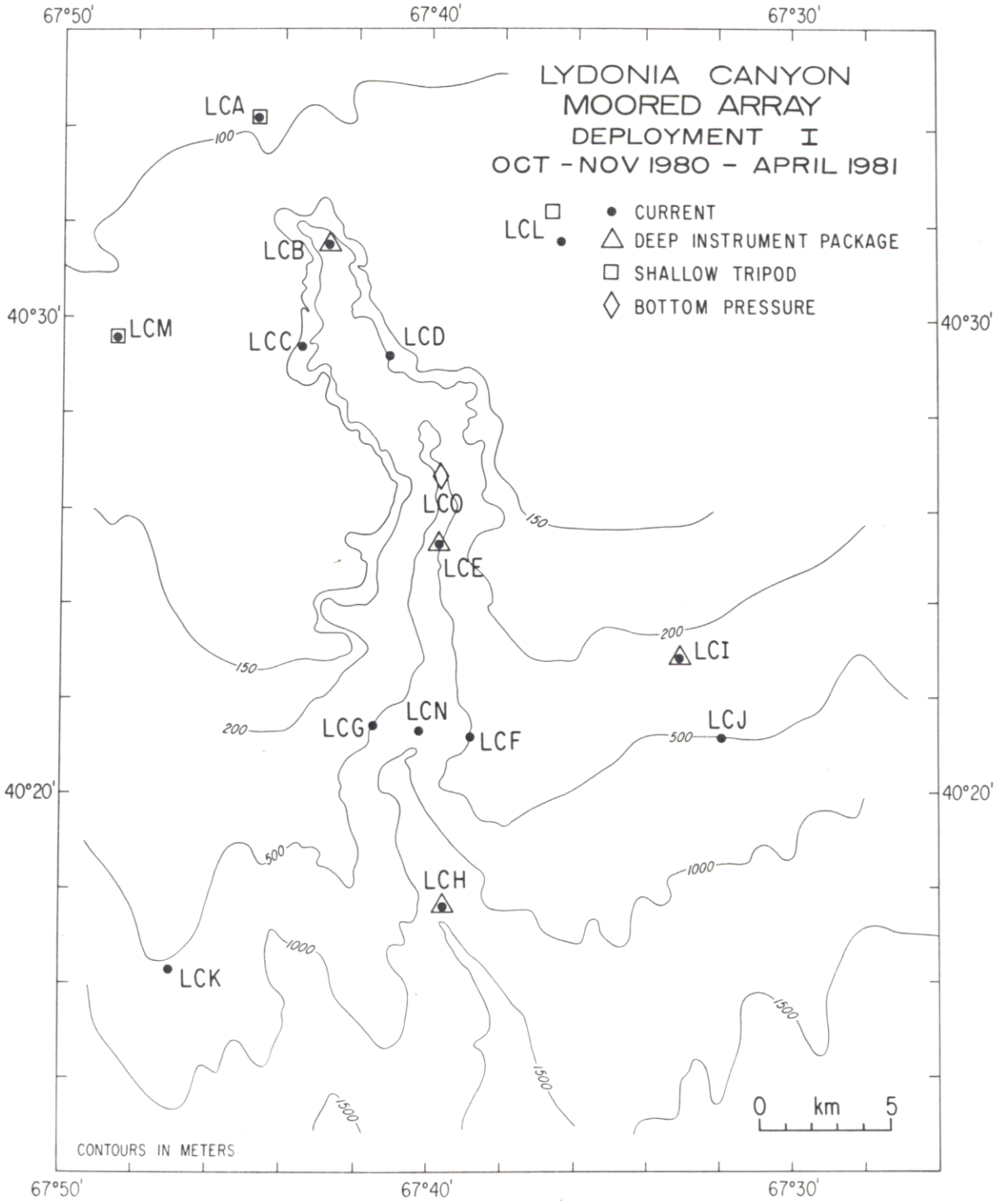

Figure 2. Location of moorings deployed in Lydonia Canyon. Mooring recovered by ALVIN was at station LCE.

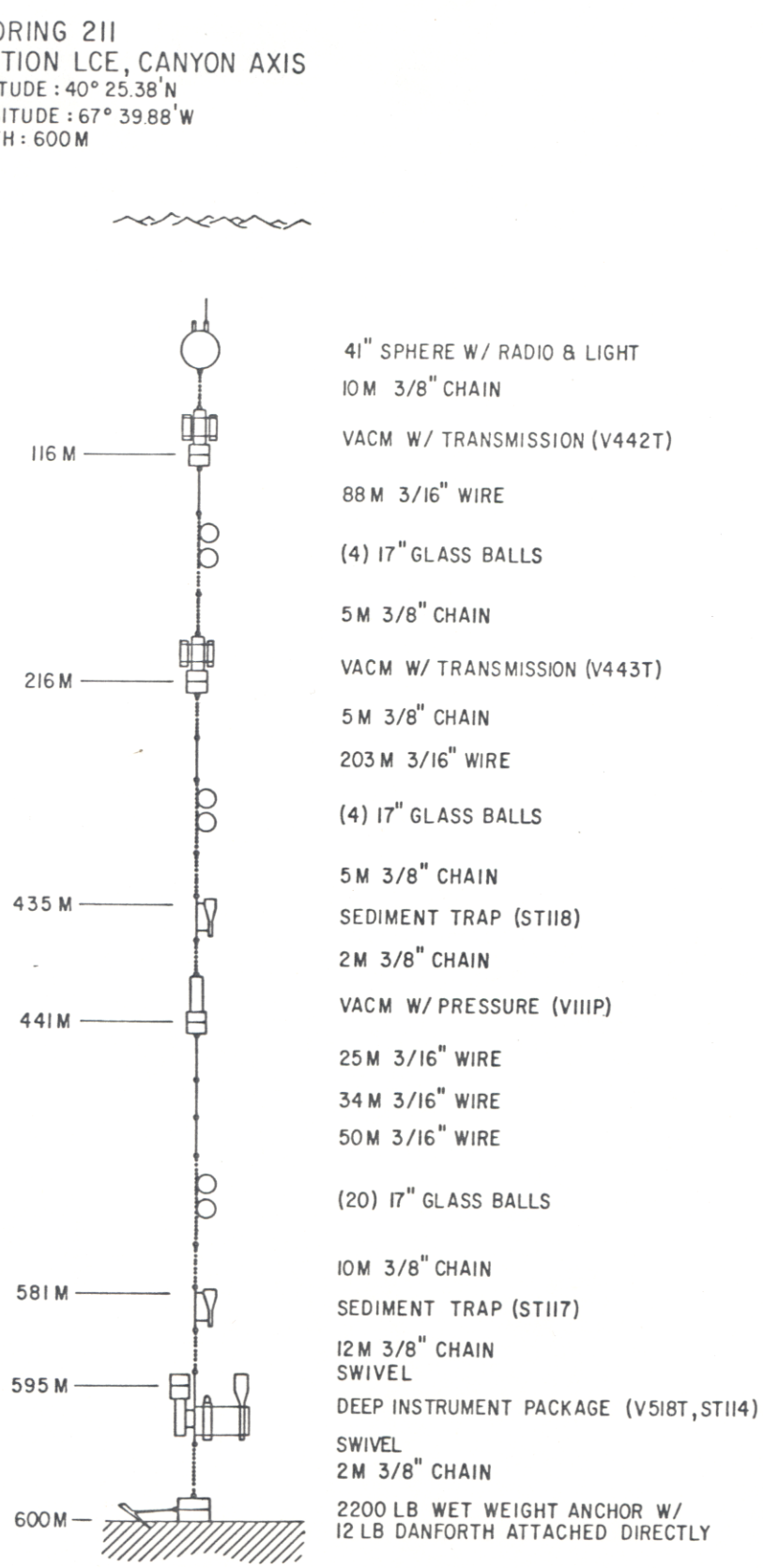

Figure 3. Schematic of mooring 211 deployed at station LCE. ALVIN cut the chain between the anchor and the deep instrument package. The upper two VACM's (V442T and V443T) were recovered by dragging. V111P was lost.